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DISTRICT OF COLUMBIA

**2005 NONPOINT SOURCE
POLLUTION PROGRAM**

ANNUAL REPORT

February 2006

District of Columbia
Department of Health
Environmental Health Administration
Bureau of Environmental Quality
Watershed Protection Division



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I. Mission and Goals of the District of Columbia's Nonpoint Source Program

The District of Columbia's Nonpoint Source (NPS) Program is an innovator in nonpoint source pollution prevention and control in the urban environment. Our Program protects District watersheds from NPS pollution, safeguards city water and soil resources, and defends the health, welfare and safety of citizens using those resources. The Program works in partnership with other government agencies, environmental organizations, citizens and private industry to increase stakeholder awareness and involvement in the clean-up effort along the Anacostia River, Chesapeake Bay and other local waterways. Education and outreach efforts equip city residents with knowledge and tools to help them prevent nonpoint source pollution in their neighborhood streams.

The NPS Program has established short-term milestones that mark progress toward long-term goals. Listed below, these goals aim to reduce NPS pollution from urban runoff, construction, and hydrologic/habitat modification. A more thorough discussion of Program milestones and goals can be found in the *District Nonpoint Source Management Plan II* (2000).

- ▶ Support activities that reduce pollutant loads from urban runoff, construction activity, combined sewer overflows and trash disposal for the purpose of attaining present designated uses by 2015 and future designated uses by 2025.
- ▶ Support programs and activities that strive to restore and maintain healthy natural habitat, species diversity and necessary base flow to all of the Anacostia River tributaries by 2015 and to all surface waters of the District of Columbia by 2025 by restoring degraded watersheds and preserving healthy ones.
- ▶ Coordinate the District NPS Program efforts with other District, federal, not-for-profit, environmental advocacy, private sector programs and adjoining jurisdictions to deliver the best possible NPS pollution prevention and control services in the District of Columbia with the resources available.
- ▶ Carry out effective information and education campaigns on NPS pollution prevention to targeted audiences who live, work, teach or visit in the District of Columbia and its watersheds, reaching at least ten-thousand (10,000) individuals each year.

II. Executive Summary

This annual report is written in response to *Sections 319 (h)(8) and (11) of the Clean Water Act (33 USC 1329)*, for the purpose of documenting progress made in Fiscal Year 2005 by the District of Columbia in implementing its *Nonpoint Source Management Plan II: Addressing Polluted Runoff in an Urban Environment* (2000).

As in previous years, the District of Columbia's NPS Program has made significant progress toward achieving its goals. Accomplishments in fiscal 2005 include the following:

- ▶ Regulated construction activities throughout the District by reviewing two-thousand-three-hundred-thirty-three (2,333) construction plans, conducting six-thousand-seven-hundred-seventy (6,770) construction site inspections, inspecting two-hundred-forty-five (245) stormwater management facilities and conducting one-hundred-eighty-eight (188) post-maintenance inspections. In combination with four-hundred-two (402) enforcement actions this work insured compliance with the most current stormwater, sedimentation and erosion control laws.
- ▶ Promoted the use of Low Impact Development (LID) practices at the International Green Roofs for Healthy Cities Conference and Trade Show at the DC Convention Center in the Spring of 2005. WPD funded a green roof installation at Human Rights Campaign headquarters. WPD implemented raingardens and pervious parking area LID techniques at the US National Park Service administrative complex and three District elementary schools.

- ▶ Provided Meaningful Bay Experiences to approximately four-hundred-thirty (430) District school children. All students had the opportunity to participate in local field excursions and some had opportunities for additional outdoor education.
- ▶ In fiscal 2005 WPD recertified two Clean Marinas. The Clean Marinas program had an exhibit booth at the Washington Boat Show where boaters and other show-goers learned about the need to keep clean marinas. Additionally, a Clean Marina workshop was held for all marina owners, managers and yacht club officers from ten facilities.

EPA Chesapeake Bay Program watershed model results provide an estimate of potential impact from District NPS pollution reduction efforts. In support of these efforts WPD submits to CBP all the nonpoint source best management practices implemented in the District under our regulatory and non-regulatory programs. Chesapeake Bay Program model results (from 2004 progress scenario) indicate that, in an average hydrologic year, our current NPS pollution control implementation level would significantly reduce nutrient and sediment pollution delivered to the Chesapeake Bay (Table 1).

Table 1: Nutrient and Sediment Reduction Estimates from CBP Modeling Efforts, 2004 Progress Scenario.

<i>TN (lbs/yr)</i>	<i>TP (lbs/yr)</i>	<i>SED (tons/yr)</i>
78,000	16,500	172

The highly urbanized setting and multiplicity of land ownership within Washington DC creates unique challenges for NPS Program pollution reduction efforts. These circumstances can, however, also provide opportunities to form creative partnerships and test innovative technologies.

The NPS Program continues to pursue development of monitoring and measurement techniques that will provide improved assessment of NPS pollution control technique effectiveness. In fiscal 2006 the District will continue to strengthen its existing programs for regulation and enforcement, stream and wetland restoration, education and outreach, and pollution prevention.

III. The District of Columbia's Nonpoint Source Program

In 1990, the government of the District of Columbia formed its NPS Program to address the control and prevention of NPS pollution impacting District surface and ground waters. In January 1998, the NPS regulatory program was transferred to the District of Columbia Department of Health (DOH), under the Environmental Health Administration (EHA). As part of this programmatic realignment, the District of Columbia established the Watershed Protection Division (WPD) in October 1998. It is this division that is responsible for the NPS Management Program. In November 2005 the District of Columbia City Council voted to create a new District Department of Environment (DDOE) within which the NPS Management Program will reside in the future.

EHA assesses the health of all significant waterbodies in the District, and prioritizes water quality improvement efforts based on data gathered from water quality monitoring. EHA, then, characterizes waterbody impairments and threats; these characterizations are included in the District of Columbia's Section 305(b) reports as required by the federal Clean Water Act. The 2004 305(b) report describes many of the District waterbodies as not supporting their swimmable (primary contact recreation) and fishable (fish consumption) uses.

Urban stormwater runoff is a ubiquitous source of pollutants to District of Columbia waterbodies. Primary NPS pollutants of concern include nutrients, sediment, toxicants, pathogens and hydrocarbons. The few waterbodies that partially or fully support a designated use are also threatened by NPS pollutants. A process to rank watersheds for NPS implementation in the District, conducted by the District NPS Program in 1995, determined that the Anacostia River and its tributaries should receive highest priority. The outcome of this formal ranking process further galvanized the EHA's prior belief that the Anacostia River is the District's most daunting water quality problem. For more than ten years, the District of Columbia has been using a watershed approach to raise awareness and unite public and private sector resources to tackle the water quality problems of the Anacostia River.

To properly address the water quality problems associated with the District's urban environment, the District amended its approved NPS Management Plan (1989) and created the *Nonpoint Source Management Plan II, Addressing Polluted Runoff in an Urban Environment*, (2000). This document outlines a comprehensive strategy for managing nonpoint source pollution in an urban environment in an effort to restore beneficial uses by the year 2025. The Plan sets goals and objectives that will be achieved by the completion of specific, short-term (5-year) milestones.

The District employs both regulatory and non-regulatory approaches to reach its NPS milestones. Department of Health, Environmental Health Administration programs that fall under regulation and enforcement include the:

- ▶ Stormwater Management Program
- ▶ Soil Erosion and Sediment Control Program
- ▶ Floodplain Management Program
- ▶ Compliance and Enforcement Program (for stormwater control BMPs)

The combined aim of these programs is to ensure that any development or construction activities occurring within the District properly control potential erosion or runoff from their site areas and properly adhere to all federal and city laws relating to floodplains and waterways. In addition these programs ensure that best management practices (BMPs) are installed correctly and receive appropriate maintenance and upkeep.

Non-regulatory programs include:

- ▶ Wetland and river habitat creation and restoration programs
- ▶ Use of low impact development (LID) innovative BMP technology
- ▶ Education and outreach programs
- ▶ Pollution prevention programs

Through these non-regulatory programs, the District educates community members about NPS pollution and how their actions contribute to it, with the ultimate goal of changing personal behavior for an effective long-term solution. Additionally, the District: tests and develops innovative approaches to urban NPS pollution reduction; increases acceptance and implementation of LID; and provides support and financial incentives for citizens wishing to implement LID and pollution prevention techniques.

The District also develops partnerships and collaborations to address the issue of NPS pollution. In recent years, the District has begun to work more closely with federal agencies to ensure that NPS pollution prevention is addressed on both city and federal lands.

Overall, the NPS management strategy attempts to change the mindset and actions of individuals and communities, elected leaders and agency heads. The strategy concentrates activities on targeted tributaries, and strictly enforces regulations that protect the District's water quality and natural resources. The District does not shoulder the entire load, but rather combines assistance from many stakeholders and partners, in an effort to deliver clean water and healthy watersheds to the citizens of the Capitol city and its visitors.



A. Sediment, Stormwater, Floodplain Management, and Low Impact Development

Highlights

- ▶ Reviewed two-thousand-three-hundred-thirty-three (2,333) construction plans for compliance with sediment and stormwater pollution control
- ▶ Processed environmental impact screening forms for forty-nine (49) projects
- ▶ Received sixteen (16) applications for innovative stormwater project support through the WPD 'Put a LID on it!' program
- ▶ Developed an innovative partnership between the USDA Natural Resource Conservation Service and EHA, whereby the USDA will act as the design/build for a series of demonstration LID projects
- ▶ Funded several showcase LID projects

Construction Plan Review

In fiscal 2005, to meet its objective of reducing the amount of untreated stormwater from construction sites, the Watershed Protection Division reviewed approximately two-thousand-three-hundred-thirty-three (2,333) construction plans for compliance with sediment and stormwater pollution control. This review process led to the approval of two-thousand-two-hundred-eleven (2,211) of these plans. The number of reviews and approvals exceeded the Program's annual targets of twelve-hundred (1,200) reviews and twelve-hundred (1,200) approvals.

WPD processed approximately one-hundred-seventy (170) requests for flood zone determinations at various properties in the city. This was well above the annual target of forty. Flood zone information is critical in determining the availability of flood insurance and eligibility for Federal assistance in the event of natural disasters caused by floods. Additionally, WPD processed seventy-six (76) requests for information on soil characteristics and reviewed approximately seventy (70) geotechnical reports to assess the suitability of soils for various construction projects.

Environmental Impact Regulation

In fiscal 2005, WPD reviewed environmental impact screening forms for forty-nine (49) projects, and one Environmental Impact Study for The Southeast Federal Center Development Project. This study, which weighed the environmental impacts associated with the construction of a mixed-use development was reviewed for compliance with the District's Environmental Policy Act, as well as the National Environmental Policy Act (NEPA).

Put a LID on it!

The WPD 'Put a LID on it!' program provides funding for innovative stormwater control projects in the District. Under the program, District property owners can apply for LID funding via a formalized application process which weighs the technical merits and viability of each project based upon predetermined criteria. The WPD received sixteen (16) applications throughout the course of fiscal 2004. During fiscal 2005, WPD received and additional ten to fifteen applications. We expect to review and fund a portion of these projects based upon their ability to meet multiple objectives including stormwater quality and quantity treatment, site visibility, technical viability, cost and potential BMP longevity. The LID grants



program will continue in fiscal 2006 via a new grants process and partnership with the USDA Natural Resource Conservation Service and EHA whereby the USDA-NRCS will act as the design/build firm for a series of demonstration LID projects, thereby circumventing many of the barriers to LID construction via the standard grant process. This process is unlike past grants in that it does not require the property owner to submit a typical grant application, contract design or build firms, accept grant awards, hold insurance or gather permits.

Showcase LID Projects

Human Rights Campaign: WPD funded the installation of a small roughly two-thousand square-foot (2,000 sq-ft) green roof at the HRC headquarters building on Rhode Island Avenue, NW. The green roof sits above the first floor lobby and is visible from upper floors.

US National Park Service: A roughly four-thousand square-foot (4,000 sq-ft) parking lot in the NPS administrative complex in the Anacostia Park was retrofitted with a small raingarden primarily for water quality control.

Rain Barrel Program: WPD, in partnership with Shaw EcoVillage and DC Greenworks, initiated a downspout disconnection, CSO education, and rain barrel retrofit program in the Shaw neighborhood of northeast DC. This program resulted in the installation of one hundred rain barrels.

Ross Elementary School: The WPD funded the implementation of a groundwater recharging subterranean Stormtech chamber and pervious parking area. The Stormtech chamber, which was donated by the manufacturer, sits below a pervious artificial-turf athletic field and drains roughly six-thousand square-feet (6,000 sq-ft) of playground. The pervious parking area holds approximately twelve cars and has significant subterranean storage capacity via a stone sub-base. The school play area previously drained into an undersized combined sewer and caused regular flooding.

Bancroft Elementary School: The WPD, in partnership with the 21st Century Fund, subsidized the retrofit of an existing roughly one-hundred foot long by seven foot wide drainage trench as a dual above ground sand-filter pre-treatment device and raingarden. This innovative BMP drains at least twenty-thousand square-feet (20,000 sq-ft) of impervious play area and roof leaders. The raingarden controls stormwater quality and quantity to Rock Creek, and is an aesthetically pleasing amenity to the play area.

Peabody Elementary School: A portion of the play area and parking lot behind the school, measures approximately three-thousand square-feet (3,000 sq-ft), and was retrofitted with three different surfaces for experimental and demonstration purposes. A GrassPave proprietary system and stone eco-pavers with grass and stone in the void space were all implemented with varying degrees of success. This school resides on Capitol Hill and has tremendous educational and public outreach value. By design, all of our school collaborations treat stormwater, institutionalize innovative urban stormwater BMPs, and educate students on the importance of stormwater control.

B. Inspection and Enforcement

Highlights

- ▶ Improved compliance with District of Columbia soil erosion and sediment control and stormwater management regulations
- ▶ Strengthened soil erosion and sediment control and stormwater management regulations to meet MS4 permit requirements
- ▶ Improved guidance for the regulated community with the creation of the *Erosion & Sediment Control Handbook*
- ▶ Monitored stormwater BMP effectiveness on filtration practices
- ▶ Established necessary agreements to update the *District of Columbia Soil Survey* which will provide needed information to urban planners, developers and engineers

Compliance

During fiscal 2005 WPD improved compliance with District of Columbia soil erosion and sediment control and storm water management regulations by conducting six-thousand-seven-hundred-seventy (6,770) inspections at construction sites and issuing four-hundred-two (402) enforcement actions.

WPD minimized pollution in stormwater runoff to the Anacostia and Potomac rivers and their tributaries by inspection of two-hundred-forty-five (245) stormwater management facilities and one-hundred-eighty-eight (188) post-maintenance inspections to ensure proper maintenance of these facilities. Storm water management facilities were restored on an as needed basis and appropriate enforcement actions were taken to ensure compliance.

WPD has improved customer satisfaction by investigating and resolving one-hundred percent of one-hundred citizen complaints relating to soil erosion control and drainage problems in a timely manner.

Regulatory Improvement

WPD finalized revisions to the soil erosion and sediment control and storm water management regulations in part, to strengthen the existing regulations and meet new EPA MS4 permit requirements. Once this review is completed, the document will be submitted to the Office of the Attorney General for review and approval.

Regulatory Guidance

WPD has completed the first draft of the revised District's *Erosion & Sediment Control Handbook*. The handbook will provide compliance guidelines to the regulated community.

Sampling of stormwater from stormwater best management practices (BMP) using filter media in the Anacostia River and Oxon Run watersheds began in the Summer of 2005. The sampling is part of a study being conducted as a joint venture with the University of Maryland, Department of Civil and Environmental Engineering and the WPD. Stormwater has been collected from three different BMPs for seven storm events thus far, preliminary analysis of the BMP media and the quality of the storm water samples collected have been reported in *Investigation of Stormwater Devices Using Filter Media Preliminary Report*.

DOH signed a Memorandum of Understanding (MOU) with the US Department of Agriculture, Natural Resources Conservation Service and other parties for *The Maintenance of a Soil Survey for the District of Columbia*. A work plan has been developed and implementation of the project has begun. This project will provide soil data necessary for city planners, developers and engineers and to appraise and manage land, and to understand, protect and enhance the environment.



C. Habitat Creation and Restoration

Highlights

- ▶ Anacostia River Fringe wetland monitoring has collected three years of data.
- ▶ We continue to work to move forward several long-awaited restoration projects on small tributaries to the Anacostia, including Hickey Run, Oxon Run, Pope Branch and Watts Branch.
- ▶ In Hickey Run, two possible final design options have been submitted to the US National Arboretum.

- ▶ Negotiated an MOU between WASA and DC DPR that will lead to the eventual design and construction of restoration work at Pope Branch
- ▶ We continue to seek cost share sources for the estimated \$8 million dollar Oxon Run restoration.
- ▶ Watts Branch stakeholders continued to work with USFWS to coordinate restoration plans.
- ▶ Kingman Island restoration designs were completed by USACE.

Anacostia River Fringe Wetland Monitoring

Fiscal 2005 was the third year of Anacostia River Fringe wetland monitoring. The USACE, in fiscal 2003, completed construction of sixteen acres of river fringe wetland in the Anacostia and we, with our partners at the US Geological Survey (USGS), have monitored its change over time. Monitoring data, gathered at three seasonal sampling times, show that the wetlands now contain over forty species of plants and provide greater than one-hundred percent coverage in most of the forty-eight plots that make up the wetland. Annuals, including Wild Rice (*Zizania aquatica*), continue to thrive, although the presence of Purple Loosestrife is of concern. Fiscal 2006 will be the last year of river fringe monitoring and the data gathered over this three-and-a-half year project will be presented in a report.



'WIP'ping Stormwater

WPD, in fiscal 2005, submitted to the EPA draft copies of Watershed Implementation Plans (WIPs) for Rock Creek and Anacostia River. WPD now has submitted WIPs for Watts Branch, Pope Branch, Fort Dupont, Oxon Run, Anacostia River and Rock Creek. WPD is working with US EPA Region III to finalize these documents.

Watershed, Stream and Habitat Restoration Design Work

The WPD works with federal partners on multiple watershed restoration projects. These projects are part of the District's objective of supporting modification and stabilization projects in eroding streams. The WPD plans to restore four streams (all tributaries to the Anacostia River), addressing watershed issues such as flashy stormwater discharges, resultant stream entrenchment and bank erosion, fish blockages, habitat improvement, and negative human impacts such as dumping and property encroachment. The projects are Hickey Run, Oxon Run, Pope Branch and Watts Branch.

Hickey Run: Throughout fiscal 2004 and fiscal 2005, WPD continued to advance its goal of bringing channel restoration and a large trash trap and oil separator to the Hickey Run outfall located on US National Arboretum (USNA) property. In January 2004, after an extended period of negotiations, USNA agreed to allow the restoration of three Hickey Run tributaries, in conjunction with the installation of a trash trap and oil separator. This arrangement was then formalized via the signing of a Memorandum of Understanding (MOU). After an extensive examination of viable technologies, final designs for two competing proprietary technologies were submitted to all stakeholders for review in November 2005. WPD has made recommendations on the two alternatives and is awaiting a final decision by the property owner. Construction of the chosen BMP is slated for the Summer of 2006. This will be one of the biggest, if not the biggest urban sewershed treated by structural BMPs in the United States. WPD hopes that a complete restoration of the mainstem Hickey Run can follow. The final approved watershed assessment report was delivered by the USFWS in December of 2005. With the permission of the USNA, the USFWS has begun developing actual one-hundred percent (100%) rehabilitation plans for three tributaries to the mainstem of Hickey Run and a thirty percent (30%) rehabilitation plan for the mainstem itself.

Oxon Run: In fiscal 2004, USFWS presented two final reports to WPD. The Oxon Run Watershed and Stream Assessment documents current environmental conditions, and the Stream Restoration Concept Development report contains restoration concept design alternatives and cost estimates for actual restoration, including the use of large LID facilities to control the volume and quality of stormwater entering the stream. Using this information, USFWS and WPD applied for \$1.3 million dollars in matching restoration funds under the US EPA Watershed Initiative Grants Program, but the application was denied. Throughout 2005, WPD and partners continued to seek cost share sources for the estimated \$8 million dollar Oxon Run restoration.

Pope Branch: In fiscal 2005, WPD negotiated an MOU between WASA and DPR that will lead to the eventual design and construction of restoration work at Pope Branch. The partnership will allow WASA to utilize its contracting abilities to obtain a design and build contractor for the Pope Branch stream restoration project that would also entail realigning the existing sewer line in the Pope Branch Park. It is anticipated that efforts to move forward with the completion of stream restoration designs will be underway in early 2006. Construction of the stream restoration project will be dependent upon the contractor selected.

To aid a contractor in the eventual design process, WPD completed, in fiscal 2004, a tree and invasive species survey throughout the park areas that buffer Pope Branch. This information will be used to preserve riparian forest, particularly large diameter riparian trees. In addition, the tree survey will be utilized for invasive species control in the park. The WPD has partnered with Casey Trees which will manage interns who will remove invasive species in priority areas. Casey Trees will also lead tree planting activities in the watershed, helping the WPD achieve the WIP goal of planting one-hundred trees. These plantings will occur in fiscal 2005 in Pope Branch Park and throughout the watershed.

Watts Branch: Following the indefinite suspension of work by USACE in fiscal 2004, WPD reached agreement with the USFWS to pick up the project. Throughout 2004 and 2005, USFWS worked on coordinating restoration plans with a number of Watts Branch stakeholders and on gathering requisite data. Design phase milestones will be reached throughout the Spring and Summer of 2006, and project construction is expected in the Fall. USFWS final designs will incorporate natural channel modifications, which will produce a battery of environmental improvements in this degraded urban watershed.

Kingman Island and RFK Riparian Buffer Restoration: Buffer planting events organized by WPD in 2004 have produced a thriving one-hundred to one-hundred-twenty foot (100-120 ft) wide tree and shrub buffer where before there had been only a two to ten foot buffer. The buffer extends approximately five-hundred yards (500 yd) along the shore at Kingman Lake. The buffer continued to grow during fiscal 2005. The buffer project involved many groups including: Casey Trees Foundation, Chesapeake Bay Foundation (Anacostia Office), Anacostia Watershed Society, and the National Park Service, Student Conservation Association, and children from Boy Scouts and District of Columbia schools.

The Army Corps of Engineers completed, in fiscal 2005, designs for Kingman Island restoration. It is expected that the terrestrial habitat component of Kingman Island restoration will enter the construction phase in Spring 2006.

D. Environmental Education and Outreach

Highlights

- ▶ Planted one-hundred trees at ten DC Public Schools
- ▶ Improved schoolyards under the Greener Schools, Cleaner Water program
- ▶ Showcased five DC Public Schools with a Schoolyard Greening Consortium tour
- ▶ Assisted DC Environmental Education Consortium (DCEEC) with revision its vision and mission statements; DCEEC is now comprised of thirty organizations and seventy-five individuals.
- ▶ Provided Meaningful Bay Experiences to approximately four-hundred-thirty (430) District school children
- ▶ Worked to promote the 'meaningful watershed experience' and hopes to have it incorporated into the DC Science Standards.

Tree Planting

WPD and Casey Trees planted one-hundred, two-and-a-half inch diameter, trees at ten District of Columbia Public Schools as part of the on-going Trees for Kids project. An assessment of 'plantable spaces' had been identified by Casey Trees during their Summer tree inventory of school grounds. Additional schools were identified by WPD to compliment on-going schoolyard greening projects. Citizen volunteers and students, from September 17 through November 1, planted trees at the following schools: Francis Jr. High, University of the District of Columbia, Thurgood Marshall Academy, Savoy Elementary, McKinley Technology Academy, Bancroft Elementary, Clara Muhammad, and Moten Elementary.



WPD continued the Trees For Kids program to educate teachers about the importance of tree canopy, the significance of choosing the correct tree for a given area, the proper way to plant and care for a tree, and the lesson plans that use trees.

Greener Schools, Cleaner Water Program

During fiscal 2005, WPD continued to work with six schools that were selected for the schoolyard conservation program, 'Greener Schools: Cleaner Water'. The following were accomplished:

- ▶ In partnership with Environmental Concern a new wetland habitat was installed at Bertie Backus Middle School.
- ▶ Students planted trees, shrubs, perennials and bulbs, and installed birdfeeders in the Cardozo Senior High School Peace Garden, which was created in response to the events of 9/11. History and Science teachers use this habitat in their lessons.
- ▶ Roosevelt High School installed a pond, with solar powered pump, to enrich their schoolyard habitat. Students also installed plants around the pond and in front of the school.
- ▶ All of the schools are using the training and materials given to them to incorporate their wildlife habitats, outdoor space and watershed education into the curriculum.
- ▶ A site prep day was held at John Burroughs Elementary. Weeds and invasive plants were removed, beds were established and mulched and trees were pruned and mulched.
- ▶ At Seaton Elementary, five new trees were planted, a log seating area was built and a pond was installed twice. The pond has been vandalized both times.
- ▶ Several of these conservation sites were placed on the Schoolyard Greening Consortium tour held October 15, 2005.

Schoolyard Greening Consortium

The Schoolyard Greening Consortium (SGC) held the Second Annual DC School Gardens Tour on October 15, 2005. The tour showcased five DC schoolyard gardens at Bertie Backus Middle School, Cardozo Senior High School, Horace Mann Elementary School, Roosevelt High School and Sharpe Health. These schools have gardens that are in various stages of development and are used for a variety of teaching purposes. There were thirty-five people in attendance, mainly teachers. They learned how to get started in creating a conservation site, ideas for outdoor sites, tips for teaching outdoors, funding opportunities, and they received lesson plans and networked with other teachers interested in schoolyard greening. The tour included a wetland habitat, rain garden, raised herb beds, butterfly and sensory gardens, a pond, vegetable garden, native garden, composting area, peace garden, and garden designs for special needs students.

The SGC website is located at <http://www.dcschoolyardgreening.org> and has information about schoolyard sites, funding, curricula and where to obtain technical assistance. Information was researched, written and placed on the site by a student intern from a grant obtained from the Spring Creek Foundation.

District of Columbia Environmental Education Consortium (DCEEC)

WPD continues providing the leadership to strengthen and build DCEEC. DCEEC revised its mission and vision statements this year. It is comprised of thirty organizations and seventy-five individuals serving District of Columbia residents.

Mission: To bolster a network of environmental and conservation educators, increasing their capacity to provide meaningful environmental education for the residents of the District of Columbia.

Vision: To be a model of cooperation increasing environmental literacy for youth and adults of the District of Columbia. DCEEC is an inclusive network of teachers, DC schools, environmental education providers, and supports from businesses, universities, and the political arena.

Meaningful Bay Experiences

Living Classrooms Foundation: A grant to Living Classrooms Foundation provided Meaningful Bay Experiences to approximately one-hundred-fifty (150) school children from the District of Columbia. Students participated in a shipboard experience on LCF's historic buyboat, Half Shell. There, they tested water quality and used bio-monitoring techniques to gain an understanding of nonpoint source pollutant impacts on Anacostia and Potomac River health.

Capitol Hill Cluster School: A second grant provided Meaningful Bay Experiences through on-line science explorations of the JASON Expedition to one-hundred eighty (180) school children attending the Capitol Hill Cluster School. All students participated in field excursions to Kenilworth Marsh where they sampled water quality; thirty students went on to participate in a three-day field expedition to Smith Island with Chesapeake Bay Foundation educators.

Student Conservation Association: A grant to the Student Conservation Association provided Meaningful Bay Experiences for approximately one-hundred (100) DC school children in the 4th-12th grade. Students visited local parks and natural resources including: Anacostia River, Kenilworth Marsh, Anacostia Park and Rock Creek Park. SCA conducted in-school environmental education programs two to four times per month and provided over one-thousand hours of service learning opportunities in which students took action to address nonpoint source pollution and environmental issues.

Hard Bargain Farm: WPD sponsored seven Meaningful Bay Experiences at Hard Bargain Farm in Accokeek, Maryland with a total of one-hundred-twenty-five (125) fifth-grade students attending the overnight experience.

Fiscal 2006 Goals: The two primary goals for fiscal 2006 are to 1) to conduct a 'meaningful watershed educational experience' teacher training workshop on the Anacostia River, and 2) incorporate the meaningful watershed experience into DC Science Standards. Funding for the planned teacher training event has been obtained from NOAA and additional funding will be secured from Fannie Mae. The Superintendent for Curriculum and Instruction has made a commitment in support of our second major goal of incorporating the watershed experience into DC Science Standards.



Environmental Events

- ▶ Coordinated its Ninth Annual Anacostia Environmental Fair in Anacostia Park with ten volunteer organizations helping to educate four-hundred students.
- ▶ Participated in the National Girl Scout Jamboree, local Girl Scout troop activities, Anacostia Museum Day, United Planning Organization Back to School Festival, and Casey Trees Citizen Forestry Program.
- ▶ Sponsored the first Spring Environmental Education Camp at the Tennis and Learning Center with forty DC students participating
- ▶ Conducted the Third Annual Summer Environmental Education Camp at Camp Riverview with eighty students participating in the week-long environmental camp
- ▶ Conducted the Second Annual NOAA Environmental Summit with 173 students and ten teachers in attendance
- ▶ Conducted two Project Learning Tree and five Wet in the City workshops with 122 educators participating
- ▶ Participated in various school-sponsored environmental events

E. Pollution Prevention

Highlights

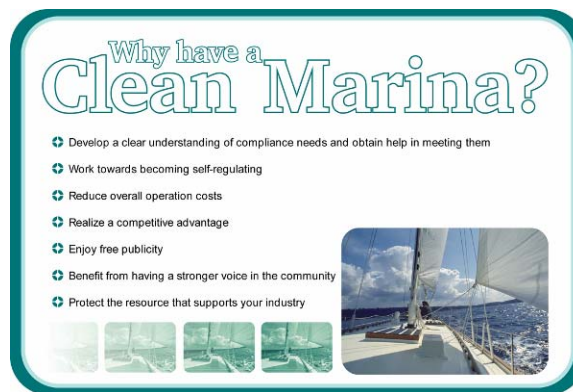
- ▶ Recertified two Clean Marinas
- ▶ Staffed a Clean Marina exhibit booth at the Washington Boat Show to educate the public about nonpoint source pollution from boating activities
- ▶ Held a Clean Marina workshop for marina owners, managers and yacht club officers from ten facilities
- ▶ Completed a Phase I soils assessment of DC park properties and selected sites for Phase II demonstration projects
- ▶ The DC Soil and Water Conservation District began crafting a new five-year plan
- ▶ Two-thousand storm drain markers have been installed throughout the city by approximately five-hundred volunteers

Clean Marina Program

The Clean Marina program is a voluntary program through which marinas and boat club operators in the District of Columbia work to make their operations more environmentally responsible. Representatives from five different marinas comprise the Clean Marina advisory committee, which meets regularly to discuss program progress, conduct marina visits, and plan for the future of the program.

WPD staffed an exhibit booth at the Washington Boat Show in March 2005; there, we provided one-thousand spill kits to boaters and had an opportunity to educate boaters and marina operators about the Clean Marina program. Additionally, a Clean Marina workshop was held for all marina owners, managers and yacht club officers from ten facilities. Workshop attendees were presented with a national overview of voluntary Clean Marina programs and the Clean Marina checklist.

To date, seven out of thirteen marina facilities in the District have been certified. In fiscal 2005 WPD recertified Gangplank Marina and Columbia Island Marina.

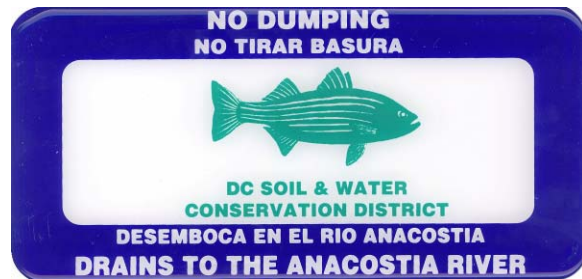


Soils Assessment of DC Parks

Phase I of the soil assessment has been completed. Walter Pierce Park was chosen by The Department of Parks & Recreation for demonstration for Phase II of the assessment. DPR posted flyers in Walter Pierce Park and the surrounding community. The flyers discussed the soil assessment and displayed contact information for residents. Following, the USDA-NRCS removed all fencing and trash from the portion of the park included in the assessment. An archeological survey and soil investigation was completed by USDA-NRCS. A preliminary conceptual design was presented at a Core Group meeting by Straughan Environmental Services. DPR held a community meeting at Walter Pierce Park in September.

Soil and Water Conservation District Citizen Advisory Committee

The DCSWCD Citizen Advisory Committee now has a full compliment of Ward representatives and conducted monthly meetings. They reviewed the former plan of action and accomplishments of the DCSWCD and began crafting a new five-year plan. Through the Storm Drain Marker Program, two-thousand markers have been installed throughout the city by citizens groups, youth programs, schools and the Department of Public Works. Approximately five-hundred volunteers installed the markers and were educated about stormwater runoff and nonpoint source pollution.



F. Future Challenges and Action

In fiscal 2006, the District of Columbia's Watershed Protection Division will continue to follow the directive of its NPS Management Plan. Planned activities for NPS programs include:

Stormwater, Sediment, Floodplain Management and Low Impact Development

- ▶ Continue to review and approve construction plans for compliance with sediment and stormwater pollution control regulations.
- ▶ Review and select from applications for LID implementation.
- ▶ Pursue funding from the Chesapeake Bay Program's Targeted Watershed Program to implement a comprehensive LID, rainbarrel and stormwater retrofit education program that will involve many District partners.
- ▶ Finalize watershed LID grant agreements in the Anacostia River subwatersheds of: Pope Branch, Watts Branch and Fort Dupont.
- ▶ Update the District's Floodplain Management Regulations pursuant to changes in the National Flood Insurance Program (*DCMR 20, Chapter 31*).
- ▶ Expand the District's *Storm Water Management Guidebook* to reflect new developments in areas such as industrial and commercial pollution prevention planning, redevelopment project design flexibility, low impact design techniques, and non-structural BMPs such as street sweeping, landscaping for stormwater facilities, rooftop treatment, and proprietary stormwater products.

Inspection and Enforcement

- ▶ Improve compliance with District of Columbia soil erosion and sediment control, and stormwater management regulations through inspection and enforcement action.
- ▶ Provide excellent customer service by investigating and resolving one-hundred percent of citizen complaints relating to soil erosion control and drainage problems in a timely manner.
- ▶ Continue partnerships to conduct a performance monitoring study of filtration BMPs for stormwater treatment.

- ▶ Pursue, with USDA-NRCS, the workplan for *The Maintenance of a Soil Survey for the District of Columbia*.
- ▶ Submit revised soil erosion and sediment control, and stormwater management regulations to the Office of the Attorney General for review and approval.

Habitat Creation and Restoration

- ▶ Oversee construction of the Hickey Run BMP and pursue rehabilitation plans for Hickey Run.
- ▶ Continue to seek cost share sources for Oxon Run stream restoration.
- ▶ Complete, with DC DPR and WASA, stream and watershed restoration of Pope Branch.
- ▶ Complete, with USFWS, stream and watershed restoration of Watts Branch.
- ▶ Complete US Army Corps of Engineers construction of the six acre Heritage Island wetlands.
- ▶ Continue to pursue signing of a Project Cooperative Agreement with US Army Corps of Engineers to restore Kingman Island.
- ▶ Create watershed implementation plans for Rock Creek and the Anacostia River. As part of the Rock Creek plan, WPD will explore the possibility of conducting restoration projects in some of the Rock Creek subwatersheds and associated streams.

Environmental Education and Outreach

- ▶ Improve pollution prevention outreach and education to the adult citizen community.
- ▶ Create five new schoolyard habitats.
- ▶ Repeat our success with another schoolyard conservation tour.
- ▶ Continue to build upon an education collaborative composed of not-for-profit environmental organizations, teachers and government agencies to coordinate environmental education activities in the city.
- ▶ Conduct an evaluation of the Meaningful Bay Experience NOAA grant program with assessment tools developed in fiscal 2005.
- ▶ Seek, in partnership with DC Public Schools, another NOAA grant for the Meaningful Bay Experience.
- ▶ Conduct a meaningful watershed education experience teacher training workshop on the Anacostia River.
- ▶ Provide a watershed education experience at Hard Bargain Farm to one-hundred-fifty students.
- ▶ Incorporate the meaningful watershed experience into DC Science Standards.

Pollution Prevention

- ▶ Work with certified Clean Marinas to further their pollution prevention records.
- ▶ Develop a 'Dock Walker' program in order to disseminate pollution prevention information to three-thousand (3,000) boaters in the District of Columbia.
- ▶ Continue development of the *DC Park Soil Erosion Inventory* with USDA-NRCS and DC DPR, and correct erosion problems in selected parks with at least two demonstration projects.
- ▶ Implement a Sustainable Gardening Practices Program in partnership with a local nonprofit organization, Garden Resources of Washington (GROW), to provide training and technical assistance to District residents involved in community gardens, and to DC public schools.

Summary

The highly urbanized setting and the multiplicity of land ownership within the city can present challenges to NPS pollution reduction; however, the same challenges present opportunities to form creative partnerships and test innovative technologies. An ongoing goal of the NOS Management Program is to continue development of monitoring and measurement techniques to further assess the effectiveness of NPS pollution control programs. Additionally, the District of Columbia's Watershed Protection Division is working to further integrate its regulatory and non-regulatory branches.

By strengthening its existing programs and continuing to seek innovative solutions for reducing NPS pollution in an urban setting, the District of Columbia will move steadily toward reaching the goals outlined in its NPS Management Plan.

Appendix A: Financial Information

FY 2005 Grant	Source	Federal	Match
Nonpoint Source Implementation	EPA	\$1,252,600	\$835,066
Chesapeake Bay Implementation	EPA	\$767,000	\$767,000
Pollution Prevention	EPA	\$30,000	\$30,000
Meaningful Bay Implementation *	NOAA	\$150,000	\$36,036

* Third year grant amendment

Appendix B: Agency Partners

District of Columbia - Lead Agency:

Department of Health, Environmental Health Administration, Watershed Protection Division

City Government:

Anacostia Waterfront Corporation

DC Department of Parks and Recreation

DC Department of Public Works

DC Department of Transportation

DC Office of Planning

DC Public Schools

DC Soil and Water Conservation District (DCSWCD)

DC Water and Sewer Authority (DCWASA)

Federal Government:

Architect of the Capitol

National Park Service (NPS)

US Army Corps of Engineers (USACE)

US Fish and Wildlife Service (USFWS)

USDA Natural Resources Conservation Service (USDA-NRCS)

US Environmental Protection Agency (USEPA)

US EPA, Chesapeake Bay Program (CBP)

US Geological Survey (USGS)

Various federal facilities

Local Groups:

Anacostia Watershed Society (AWS)

Casey Trees Endowment

DC Greenworks

Green Spaces for DC

Howard University

Interstate Commission on the Potomac River Basin (ICPRB)

Living Classrooms Foundation, Washington, DC

Marina Environmental Education Fund (MEEF)

Metropolitan Washington Council of Governments (MWCOC)

Shaw EcoVillage

Student Conservation Association (SCA)

Sustainable Community Initiatives

Washington Parks & People